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Michael Darweesh

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WOODCOCK WASHBURN LLP (MICROSOFT CORPORATION)
CIRA CENTRE, 12TH FLOOR
2929 ARCH STREET
PHILADELPHIA, PA 19104-2891

EXAMINER

PALIWAL, YOGESH

ART UNIT

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2435

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/658,149	Applicant(s) DARWEESH ET AL.	
	Examiner YOGESH PALIWAL	Art Unit 2435	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,6-12,14,17-27 and 29-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,6-12,14,17-27 and 29-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- Applicant's amendment filed on 3/23/2009 has been entered. Applicant has amended claims 1, 2, 6, 7, 9, 12, 17, and 23 and canceled claim 13. Currently claims 1, 2, 6-12, 14, 17-27 and 29-34 are pending in this application.
- Examiner acknowledges clarification of claim language of claim(s) 23-27 and 29-30 to overcome rejection under 35 U.S.C 101. As a result, all rejections under U.S.C 101 are withdrawn.

Response to Arguments

1. Applicant's arguments with respect to claims 1, 12, 17, and 23 have been considered but are moot in view of the new ground(s) of rejection and further in view of different interpretation of England reference.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17-21, 23-24, 26-27, and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olsen (US 5,758,069), hereinafter "Olsen".

Regarding **Claim 17**, England discloses a method of specifying constraints on the use of a software object, the method comprising:

creating a specification that permits a vendor to specify what may be loaded into an address space of the software a computer in which object is to be executed, the specification referring to one or more components that are external to the software and external to the specification (see, Column 18, lines 39-54 and also abstract);

including, in a manifest (see, Column 10, lines , 14-25, access predicate + license), data from one of said one or more components (see, Column 18, lines 39-54);
or

distributing the generated manifest together with the software object, thereby ensuring a secure address space for executing the software object (see, Fig. 2, Numeral 220).

England discloses a manifest but does not explicitly disclose generating a manifest based on specification.

However, Olsen discloses creating a description that specifies requirements that are to be embodied in a manifest; and providing the description to a manifest generation tool that reads the description and generates the vendor-provided manifest based on the requirements (see, Column 8, lines 52-64).

Therefore, it would have been obvious at the time the invention was made to one of ordinary skill in the art to generate, the license of England, using the description that specifies requirements of England using license generation tool as taught by Olsen so

that the license can then be distributed by the software vendor of England with the software.

Regarding **Claim 18**, the rejection of claim 17 is incorporated and the combination of England and Olsen further discloses wherein said one or more components comprises a module, wherein said specification indicates either that said module may be loaded into said address space or that said module may not be loaded into said address space (see, Column 10, lines 14-24 and Column 18, line 55 - Column 19, line 9), and wherein said manifest generation tool including an identifier of said module in said manifest (see, Olsen, Column 10, lines 12-30).

Regarding **Claim 19**, the rejection of claim 17 is incorporated and the combination of England and Olsen further discloses wherein said one or more components comprise a key, wherein said specification indicates either that modules signed with said key may be loaded into said address space or that modules signed with said key may not be loaded into said address space (see, Column 10, lines 41-51), and wherein said manifest generation tool retrieves said key from a file identified in said specification, and includes a certificate for said key in said manifest (see, Olsen, Column 10, lines 12-30).

Regarding **Claim 20**, the rejection of claim 17 is incorporated and the combination of England and Olsen further discloses wherein said manifest generation tool creates an intermediate data structure representative of said specification, and generates said manifest based on said intermediate data structure (see, Olsen, Column 8, lines 52-64)..

Regarding **Claim 21**, the rejection of claim 17 is incorporated and the combination of England and Olsen further discloses wherein receiving a key from further comprising:

receiving a key associated with a vendor or distributor of the software; signing said manifest with said to produce a digital signature; and including said digital signature in said manifest (see, Olsen, Column 10, lines 12-30).

Regarding **Claim 23**, England discloses a system comprising a processor for generating a manifest, the system comprising:

requirements relating to what may be loaded into an address space of a software object, said specification referring to one or more components external to said software and external to said specification (see, Column 18, lines 39-54 and also abstract); and

included in said manifest information contained in, or computed based on, said one or more components (see, Column 18, lines 39-54), the manifest configured to interoperate with a security component (see, Column 8, lines 56-65, Column 9, lines 11-15, "DDMOS") that imposes a permeable barrier for selectively allowing acceptable modules to be loaded into the software space of the software object and blocking unacceptable modules from being loaded into the software space thereby preventing unauthorized tampering of the one or more components (see, Column 8, lines 56-65, Column 9, lines 11-15, "DDMOS" and also see abstract).

England does not explicitly disclose a first parser configured to receive a manifest specification indicative of requirements for a manifest, the first parser

generating a representation of said requirements and a first manifest generator that generates a manifest based on said representation.

However, Olsen discloses a parser configured to receive a manifest specification indicative of requirements for a manifest, the first parser generating a representation of said requirements and a first manifest generator that generates a manifest based on said representation (see, Column 8, lines 52-64).

Therefore, it would have been obvious at the time the invention was made to one of ordinary skill in the art to generate, the license of England, using the description that specifies requirements of England using license generation tool as taught by Olsen so that the license can then be distributed by the software vendor of England with the software.

Regarding **Claim 24**, the rejection of claim 23 is incorporated and the combination of England and Olsen further discloses wherein said one or more components comprise a module, and wherein said first manifest generator generates said manifest by including, in said manifest, a datum that identifies said module (see, Column 10, lines 14-25).

Regarding **Claim 26**, the rejection of claim 23 is incorporated and the combination of England and Olsen further discloses wherein said one or more components comprise a key, wherein said specification indicates either that acceptable modules signed with said key may be loaded into said address space or that unacceptable modules signed with said key may not be loaded into said address space (see, Column 10, lines 14-24 and Column 18, line 55 - Column 19, line 9), and wherein

said first manifest generator retrieves said key from a file identified in said specification and includes said key in said manifest (see, Olsen, Column 10, lines 12-30).

Regarding **Claim 27**, the rejection of claim 23 is incorporated and the combination of England and Olsen further discloses wherein said first manifest generator generates a digital signature for said manifest by signing said manifest with a key associated with a vendor or distributor of said software object, and includes said digital signature in said manifest (see, Olsen, Column 10, lines 12-30)..

Regarding **Claim 29**, the rejection of claim 23 is incorporated and the combination of England and Olsen further discloses a second parser that receives a manifest specification indicative of requirements for a manifest, the second parser generating a representation of said requirements in the same format as said first parser (see, Column 18, line 55- Column 19, line 1), wherein said first parser parses specifications in a first format and second parser parses specifications in a second format different from said first format, and wherein first manifest generator generates said manifest based on a representation produced either by said first parser or said second parser (see, Column 19, lines 45-53).

Regarding **Claim 30**, the rejection of claim 23 is incorporated and the combination of England and Olsen further discloses a second manifest generator that generates a manifest based on said representation, wherein said first manifest generator generates a manifest in a first format and second manifest generator generates a manifest in a second format different from said first format (see, Column 19, lines 54-61 and Olsen, Column 8, lines 52-64)).

Claims 1-2, 6-10, 12, 14, 25, and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over England in view of Olsen and further in view of Jensenworth et al. (US 6,279,111), "Jensenworth".

Regarding **Claim 1**, England discloses a method of generating a vendor-provided manifest that governs the execution of a software object distributed by the vendor, the method comprising:

accessing manifest (see, Fig. 2, Numeral 222 + Numeral 223, and also see, Column 10, lines 14-25), comprising one or more rules imposed by the vendor for ensuring integrity of an address space that is used in a computer for executing the software object (see, Column 10, lines 14-25 and Column 19, lines 45-53), the one or more rules incorporating a list of acceptable modules (see, Column 10, lines 14-25) wherein acceptable modules may be executed in the address space of the computer and the unacceptable modules are unconditionally barred from being executed in the address space of the computer (see abstract).

England discloses a manifest but does not explicitly disclose creating a description that specifies requirements that are to be embodied in the vendor-provided manifest; and providing the description to a manifest generation tool that reads the description and generates the vendor-provided manifest based on the requirements.

However, Olsen discloses creating a description that specifies requirements that are to be embodied in a manifest; and providing the description to a manifest generation

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tool that reads the description and generates the vendor-provided manifest based on the requirements (see, Column 8, lines 52-64).

Therefore, it would have been obvious at the time the invention was made to one of ordinary skill in the art to generate, the license of England, using the description that specifies requirements of England using license generation tool as taught by Olsen so that the license can then be distributed by the software vendor of England with the software.

England discloses that the manifest comprises the list of acceptable modules but does not explicitly disclose the list of unacceptable modules to be included in the license.

However, Jensenworth discloses a manifest comprising the list of unacceptable modules (see, Column 5, lines 50-67 and Column 12, lines 1-9).

Therefore, it would have been obvious at the time the invention was made to one of ordinary skill in the art to include, in the license of England, a list of unacceptable modules so that the access to the content of England can be barred explicitly from these unacceptable modules.

Regarding **Claim 2**, the rejection of claim 1 is incorporated and the combination of England, Olsen and Jensenworth further discloses wherein said description identifies the acceptable and unacceptable modules, and wherein generating the manifest comprises including, in said manifest, the identities of the acceptable and unacceptable modules identified in the description (see, England, Column 10, lines 14-25 and Olsen, See Column 8, lines 52-64).

Regarding **Claim 6**, the rejection of claim 2 is incorporated and the combination of England, Olsen and Jensenworth further discloses wherein said specification indicates whether said manifest will contain hashes for identifying the unacceptable modules (see, Jensenworth, Column 7, lines 33-44).

Regarding **Claim 7**, the rejection of claim 1 is incorporated and the combination of England, Olsen and Jensenworth further discloses wherein at least one of said acceptable modules comprises a key, and wherein said specification indicates that the at least one of said acceptable modules signed with said key may be loaded into said address space (see, Column 10, lines 41-51) and wherein generating said manifest comprises: retrieving said key from a file identified in said specification; and including said key in said manifest (see Column 14, lines 58-67).

Regarding **Claim 8**, the rejection of claim 1 is incorporated and the combination of England, Olsen and Jensenworth further discloses wherein generating said manifest comprises:

Computing a hash of at least one of said unacceptable module and including said hash in said manifest (see, Jensenworth, Column 7, lines 33-44).

Regarding **Claim 9**, the rejection of claim 1 is incorporated and the combination of England, Olsen and Jensenworth further discloses wherein said generating act comprises: based on said description, creating a data structure representative of said description; and generating said manifest based on said data structure (see, Olsen, Column 8, lines 52-64).

Regarding **Claim 10**, the rejection of claim 1 is incorporated and the combination of England, Olsen and Jensenworth further discloses receiving a key associated with a vendor or distributor of said software object; signing said manifest with said key to produce a digital signature; and including said digital signature in said manifest (see, Olsen, Column 10, lines 12-30).

Regarding **Claim 12**, England discloses a computer-readable medium encoded with computer-executable instructions to perform a method of generating a manifest that governs the execution of a software object distributed by a vendor, the method comprising:

parsing a specification of requirements to be included in the manifest (see, Column 19, lines 45-53), the requirements comprising a vendor-specified policy configured to preclude loading of a rogue module into an address space of a computer in which the software object is to be executed (see, Column 18, lines 39-54 and also abstract);

accessing one or more components that are identified by the specification and that are external to the specification, the one or more components including an executable module (see, Column 18, lines 39-54); and

accessing a manifest based on at least one of the accessed objects and including in said manifest an identification of said executable module and an indication that said executable module may be loaded into said address space (see, Column 18, lines 39-54, and column 10, lines 14-25).

England discloses a manifest but does not explicitly disclose generating a manifest based on specification.

However, Olsen (US 5,758,069) discloses creating a description that specifies requirements that are to be embodied in a manifest; and providing the description to a manifest generation tool that reads the description and generates the vendor-provided manifest based on the requirements (see, Column 8, lines 52-64).

Therefore, it would have been obvious at the time the invention was made to one of ordinary skill in the art to generate, the license of England, using the description that specifies requirements of England using license generation tool as taught by Olsen so that the license can then be distributed by the software vendor of England with the software.

England discloses that the manifest comprises the list of acceptable modules but does not explicitly disclose an indication that said executable module may not be loaded into said address space.

However, Jensenworth et al. (US 6,279,111) discloses a manifest comprising the list of unacceptable modules (see, Column 5, lines 50-67 and Column 12, lines 1-9).

Therefore, it would have been obvious at the time the invention was made to one of ordinary skill in the art to include, in the license of England, a list of unacceptable modules so that the access to the content of England can be barred explicitly from these unacceptable modules.

Regarding **Claim 14**, the rejection of claim 12 is incorporated and the combination of England, Olsen and Jensenworth further discloses wherein said rouge

module is operative to perform an unauthorized operation on the one or more components (see, Column 9, lines 16-29 and Column 18, lines 39-54).

Regarding **Claim 25**, the rejection of claim 24 is incorporated and the combination of England and Olsen does not explicitly disclose wherein said datum comprises a hash of said module.

Jensenworth discloses datum comprising a hash of said module (see, Jensenworth, Column 7, lines 33-44).

Therefore, it would have been obvious at the time the invention was made to one of ordinary skill in the art to include, in the certificate of England, a datum comprising a hash of said module as taught by Jensenworth so that the hash included in the license can be matched with the hash of the application prior to granting access to the application.

Regarding **Claims 31 and 32**, the rejection of claim 1 is incorporated and the combination of England, Olsen and Jensenworth does not disclose wherein at least one of the unacceptable modules is identified in the list by a version number or a range of a version numbers.

However England in the same reference discloses identifying modules in the list by a range of version numbers (see, Column 9, lines 20-27).

Therefore, it would have been obvious at the time the invention was made to one of ordinary skill in the art to identify, in the license of England as modified by Jensenworth, unacceptable modules by the range of version numbers as applied by

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England to its right management certificate so that the same name software can be divided into acceptable or unacceptable modules based on the version information.

Regarding **Claim 33**, the rejection of claim 12 is incorporated and the combination of England, Olsen and Jensenworth and further discloses wherein the policy comprises an identity of an unacceptable module that is unconditionally barred from being executed in the address space of the software object (see, England, Column 9, lines 11-29 as combined with Jensenworth, Column 5, lines 50-67 and Column 12, lines 1-9).

Regarding **Claim 34**, the rejection of claim 33 is incorporated and the combination of England, Olsen and Jensenworth further discloses wherein the unacceptable module is identified in the policy by a hash identifier (see, Jensenworth, Column 7, lines 33-44).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over England in view of Olsen, Jensenworth and further in view of Watanabe et al. (US 2002/0108041 A1), hereinafter Watanabe.

Regarding **Claims 11**, the rejections of claim 1 is incorporated and the combination of England, Olsen and Jensenworth discloses signing a manifest using the private key of the vendor or distributor. The combination does not explicitly disclose using hardware security module to sign manifest, said hardware security module being adapted to apply a key associated with a vendor or distributor of said software object without revealing said key outside said hardware security module.

However, Watanabe, in the same field of endeavor of cryptography, discloses signing digital document with private key of the signing party without revealing private key outside hardware security module (Paragraph 0195, One of the approaches to solve the problems of security assurance and enhanced computing speed is the use of a hardware security module (HSM) in holding the signature keys (or private keys) and executing signature processing.”)

Therefore, it would have been obvious at the time the invention was made to one of ordinary skill in the art to use in the system of England, during a creation of cryptographic envelopes, use a hardware security module, as taught by Watanabe to provide highly temper resistant and security for the private key of the vendor (Watanabe, Paragraph 0195)

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over England in view of Olsen and further in view of Watanabe et al. (US 2002/0108041 A1), hereinafter Watanabe.

Regarding **Claims 22**, the rejections of claim 17 is incorporated and the combination of England and Olsen discloses signing a manifest using the private key of the vendor or distributor. The combination does not explicitly disclose using hardware security module to sign manifest, said hardware security module being adapted to apply a key associated with a vendor or distributor of said software object without revealing said key outside said hardware security module.

However, Watanabe, in the same field of endeavor of cryptography, discloses signing digital document with private key of the signing party without revealing private key outside hardware security module (Paragraph 0195, One of the approaches to solve the problems of security assurance and enhanced computing speed is the use of a hardware security module (HSM) in holding the signature keys (or private keys) and executing signature processing.”)

Therefore, it would have been obvious at the time the invention was made to one of ordinary skill in the art to use in the system of England, during a creation of cryptographic envelopes, use a hardware security module, as taught by Watanabe to provide highly temper resistant and security for the private key of the vendor (Watanabe, Paragraph 0195).

Conclusion

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOGESH PALIWAL whose telephone number is (571)270-1807. The examiner can normally be reached on M-F: 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Y. P./

Examiner, Art Unit 2435

/Kimyen Vu/

Supervisory Patent Examiner, Art Unit 2435